

**CLAIMS**

What is claimed is:

1. A blending system for mixing a composition, comprising:  
a blending vessel having an internal surface, said internal surface having at  
5 least one layer of a polymeric coating material; and  
an impeller.
2. The blending system of Claim 1, wherein said polymeric coating material  
comprises a fluorocarbon polymer.
3. The blending system of Claim 2, wherein said fluorocarbon polymer  
10 comprises multiples of tetrafluoroethylene (PTFE), fluorinated ethylene propylene (FEP),  
perfluoroalkoxyalkane (PFA), ethylene tetrafluoroethylene (ETFE), vinylidene fluoride  
(PVDF) and chlorinated ethylene tetrafluoroethylene.
4. The blending system of Claim 3, wherein said fluorocarbon polymer is  
blended with at least one non-fluorocarbon polymer.
- 15 5. The blending system of Claim 4, wherein said non-fluorocarbon polymer is  
selected from the group consisting of polyamides, polyimides, polyamideimide,  
polyethersulfones and polyphenylene sulfides.
6. The blending system of Claim 1, wherein said layer of polymeric coating  
material has a thickness in the range of approximately 1  $\mu$ m to approximately 1 mm.
- 20 7. The blending system of Claim 6, wherein said coating material thickness is in  
the range of approximately 5 – 100  $\mu$ m.
8. The blending system of Claim 1, wherein a barrier material is disposed at the  
interface of said blending container internal surface and said layer of polymeric coating  
material.
- 25 9. The blending system of Claim 8, wherein said barrier material comprises a  
primer selected from the group consisting of polytetrafluoroethylene and polyethersulphone.
10. A blending system for mixing a composition, comprising:  
a blending vessel having a first internal surface, said blending vessel having at  
least a charge line in communication with said blending vessel adapted to transfer said  
30 composition to said blending vessel and a discharge line in communication with said  
blending vessel adapted to receive said composition from said blending vessel, said charge  
line having a second internal surface, said discharge line having a third internal surface, said

first, second and third internal surfaces having at least one layer of a polymeric coating material; and

an impeller.

11. The blending system of Claim 10, wherein said polymeric coating material  
5 comprises a fluorocarbon polymer.

12. The blending system of Claim 11, wherein said fluorocarbon polymer comprises multiples of tetrafluoroethylene (PTFE), fluorinated ethylene propylene (FEP), perfluoroalkoxyalkane (PFA), ethylene tetrafluoroethylene (ETFE), vinylidene fluoride (PVDF) and chlorinated ethylene tetrafluoroethylene.

10 13. The blending system of Claim 12, wherein said fluorocarbon polymer is blended with at least one non-fluorocarbon polymer.

14. The blending system of Claim 13, wherein said non-fluorocarbon polymer is selected from the group consisting of polyamides, polyimides, polyamideimide, polyethersulfones and polyphenylene sulfides.

15 15. The blending system of Claim 10, wherein said layer of polymeric coating material has a thickness in the range of approximately 1  $\mu$ m to approximately 1 mm.

16. The blending system of Claim 15, wherein said coating material thickness is in the range of approximately 5 – 100  $\mu$ m.

17. The blending system of Claim 1, wherein a barrier material is disposed at the  
20 interface of said first, second and third internal surfaces and said layer of polymeric coating material.

18. The blending system of Claim 17, wherein said barrier material comprises a primer selected from the group consisting of polytetrafluoroethylene and polyethersulphone.

19. A blending vessel, comprising:  
25 a container adapted to receive a composition, said container having an internal surface, said internal surface having at least one layer of a polymeric coating material.

20. The blending vessel of Claim 19, wherein said polymeric coating material comprises a fluorocarbon polymer.

21. The blending vessel of Claim 20, wherein said fluorocarbon polymer  
30 comprises multiples of tetrafluoroethylene (PTFE), fluorinated ethylene propylene (FEP), perfluoroalkoxyalkane (PFA), ethylene tetrafluoroethylene (ETFE), vinylidene fluoride (PVDF) and chlorinated ethylene tetrafluoroethylene.

22. The blending vessel of Claim 21, wherein said fluorocarbon polymer is blended with at least one non-fluorocarbon polymer selected from the group consisting of polyamides, polyimides, polyamideimide, polyethersulfones and polyphenylene sulfides.

5 23. The blending vessel of Claim 19, wherein said layer of polymeric coating material has a thickness in the range of approximately 1  $\mu\text{m}$  to approximately 1 mm.

24. The blending vessel of Claim 23, wherein said coating material thickness is in the range of approximately 5 – 100  $\mu\text{m}$ .

10 25. The blending system of Claim 19, wherein a barrier material is disposed at the interface of said blending container internal surface and said layer of polymeric coating material.

26. The blending system of Claim 24, wherein said barrier material comprises a primer selected from the group consisting of polytetrafluoroethylene and polyethersulphone.